

## 7.5 Subsequent Screening

Of the sites remaining after the WAG ERA HQ screening step all have nonradiological contamination and none have radiological contamination with HQ's greater than the target value.

Additional screenings and discussion are appropriate at this stage of the WAG ERA process to use a weight of evidence approach for the further elimination of sites and contaminants for consideration in the FS process. This type of evaluation will eliminate unnecessary and undesirable remediations for ecological receptors based on the following rationale.

- **Contaminant concentrations**—For the ERA, data values calculated for the BRA for the human health risk assessment were used when available. For those concentrations determined in the human health risk assessment (for the sites identified in Table 7-11) the maximum was generally used to estimate exposure-point concentrations except as noted.
- **Modeling Conservatism**—The exposure scenario used for ecological receptors assumes that the fences are down and the site has a viable habitat that is completely accessible to receptors. However, some sites of concern at CFA are currently fenced. Both the fence and the activities associated with this currently active facility should limit the exposure of receptors to much less than that model in the ERA. Additionally, (with some exceptions [particularly sites with water sources]) some of these sites are gravel and unsuitable habitat at the present time and would not provide any special attraction to ecological receptors.
- **Parameter Conservatism**—It is accepted in the risk assessment process that the many of the input parameters are developed to be conservatively protective of the receptors. Particularly, based on limited knowledge and the uncertainty of extrapolating to multiple species, TRVs development is very conservative. This is particularly true for naturally occurring metals, which can vary greatly across regions.

Based on this rationale, an additional screening was determined appropriate for the WAG 4 sites as agreed upon in a March 19, 1998 meeting between DOE-ID, EPA and IDHW. Contaminants are eliminated as a concern if the exposure point concentration is less than 10x the background value. For those contaminants that have no site-specific background the mean for the western states presented in Shacklette and Boerngen (1984) or other sources was considered acceptable. Results of this screening are presented in Table 7-23.

This screening resulted in eliminating one site (CFA-06). The remaining 13 sites (CFA-01, CFA-02, CFA-04, CFA-05 CFA-08, CFA-10, CFA-13, CFA-21, CFA-26, CFA-40, CFA-41, CFA-43, and CFA-51) will be evaluated further in the FS.

## 7.6 Transition to Sitewide ERA

This WAG ERA represents the second phase of the four-phased approach to ERA presented in Section 7.1 (see Figure 7-1). The approach applies an iterative, "tiered" process in which preliminary assessments, based on conservative assumptions, support progressively more refined assessments (Maughn 1993; Opresko et al. 1995; Levin et al. 1989).

The first phase includes a data review and either a SLERA or EDGA, which is a "pre-assessment" performed at the WAG level. The pre-assessment (1) reduces the number of contaminants and sites to be

**Table 7-23.** Results of WAG 4 ecological contaminant screening against 10x INEEL background concentrations.

Site Number	Site Description and Size (sq. meters)	Contaminant of Potential Concern	Hazard Quotient	Maximum Concentration (mg/kg)	10x INEEL Background* (mg/kg)	Comment	Retain COPC?
CFA-01	Landfill I 4.30E+04	Benzo(a)pyrene	<1 to 2	0.89	NA	No background	YES
		Chrysene	<1 to 20	450	NA	No background	YES
		Chromium III	<1 to 50	53	330	<10x background	No
		Copper	<1 to 30	73.4	220	<10x background	No
		Lead	≤1 to 200 <1 to 6	97	170	<10x background	No
		Mercury		0.08	0.5	< 10x background	No
		Silver	≤1 to 10	19.5	NA	No background	YES
		Zinc	≤1 to 30	230	1500	<10x background	No
		4-methyl-2-pentanone	NA	0.02	NA	No background	YES
		2-methylnapthalene	NA	0.05	NA	No background	YES
CFA-02	Landfill II 7.07E+05	Acetone	≤1 to 20	5.8	NA	No background	YES
		Arsenic	≤1 to 20	17	58	<10x background	No
		Dibenzofuran	NA	0.039	NA	No background	YES
		Lead	950	255	170	>10x background	YES
		Mercury	≤1 to 20	0.19	0.5	<10x background	No
							No
		Pentachlorophenol	NA	0.074	NA	No background	YES

**Table 7-23.** (continued).

Site Number	Site Description and Size (sq. meters)	Contaminant of Potential Concern	Hazard Quotient	Maximum Concentration (mg/kg)	10x INEEL Background* (mg/kg)	Comment	Retain COPC?
CFA-04	Pond near CFA-674 6.88E+03	Arsenic	<1 to 20	22.4	58	<10x background	No
		Barium	≤1 to 6	1120	3,000	<10x background	
		Cadmium	≤1 to 1,000	3.4	22	<10x background	No
		Chromium III	<1 to 100	237	330	<10x background	No
		Cobalt	≤1 to 20	10	110	<10x background	No
		Copper	≤1 to 150	365	220	<10x background	YES
		Lead	≤1 to 90	42.4	170	<10x background	No
		Mercury	<1 to 30,000	439	0.5	>10x background	YES
		Nickel	<1 to 110	355	350	<10x background	YES
		Silver	<1 to 20	31	NA	No background	YES
		Vanadium	≤2 to 200	46	450	<10x background	No
CFA-05	Motor Pool Pond 7.43E+03	4-methyl-2-pentanone	NA	0.065	NA	No background	YES
		Arsenic	≤1 to 5	19.8	58	<10x background	No
		Cadmium	≤1 to 4,000	38.8	22	>10x background	YES
		Chromium III	≤1 to 90	91.3	330	<10x background	No
		Cobalt	≤2 to 20	15.0	110	<10x background	No
		Copper	≤1 to 40	342	220	>10x background	YES
		Lead	≤1 to 200	464	170	>10x background	YES
		Manganese	≤1 to 14	617	4,900	<10x background	No
		Mercury	≤1 to 9	0.58	0.5	>10x background	YES

**Table 7-23.** (continued).

Site Number	Site Description and Size (sq. meters)	Contaminant of Potential Concern	Hazard Quotient	Maximum Concentration (mg/kg)	10x INEEL Background* (mg/kg)	Comment	Retain COPC?
		Nickel	≤1 to 3	36.7	350	<10x background	No
		Selenium	<1 to 5	1.1	2.2	<10x background	No
		Vanadium	<1 to 20	34	450	<10x background	No
		Zinc	<1 to 20	241	1500	<10x background	No
CFA-06	Lead Shop (outside areas) 2.50E+03	Arsenic	≤1 to 10	14.5	58	<10x background	No
		Lead	≤1 to 200	153	170	<10x background	No
CFA-08	Sewage Plant (CFA-691), Septic Tank (CFA-716), and Drainfield 1.85E+04	Arsenic	≤1 to 10	16.8	58	<10x background	No
		Chloromethane	NA	0.005	NA	No background	YES
		Chromium III	<1 to 40	77.6	330	<10x background	No
		Copper	≤1 to 20	56.5	220	<10x background	No
		Lead	≤1 to 40	18	170	<10x background	No
		Mercury	≤1 to 30	0.51	0.5	>10x background	YES
		Nickel	≤1 to 20	90.3	350	<10x background	No
		Selenium	≤1 to 7	0.5	2.2	<10x background	No
		Silver	≤1 to 10	24.1	NA	No background	YES
CFA-10	Transformer Yard Oil Spills 8.08E+02	Antimony	<1 to 4	9.5	48	<10x background	No
		Arsenic	<1 to 8	11.6	58	<10x background	No

**Table 7-23.** (continued).

Table 1-25 (continued)							
Site Number	Site Description and Size (sq. meters)	Contaminant of Potential Concern	Hazard Quotient	Maximum Concentration (mg/kg)	10x INEEL Background* (mg/kg)	Comment	Retain COPC?
		Cadmium	≤1 to 2,000	7.3	22	<10x background	No
		Chromium III	<1 to 100	102	330	<10x background	No
		Cobalt	≤1 to 30	15.7	110	<10x background	No
		Copper	<1 to 70	259	220	>10x background	YES
		Lead	<1 to 5000	5,560	170	>10x background	YES
		Manganese	≤ 1 to 20	509	4,900	<10x background	No
		Mercury	<1 to 4	0.09	0.5	<10x background	No
		Nickel	<1 to 20	111	350	<10x background	No
		Zinc	<1 to 70	1,150	1,500	<10x background	No
CFA-13	Dry Well (South of CFA-640) 2.50E+01	Antimony	<1 to 3	11.5	48	<10x background	No
		Cadmium	<1 to 60	7.37	22	<10x background	No
		Chromium III	<1 to 300	267	330	<10x background	No
		Copper	≤1 to 20	1,900	220	>10 background	YES
		Lead	<1 to 20	725	170	>10 background	YES
		Mercury	<1 to 7	1.97	0.5	>10 background	YES
		Nickel	<1 to 3	85.1	350	<10x background	No
		Silver	<1 to 10	19.4	NA	No background	YES
		Zinc	<1 to 6	302	1500	<10x background	No

**Table 7-23.** (continued).

Site Number	Site Description and Size (sq. meters)	Contaminant of Potential Concern	Hazard Quotient	Maximum Concentration (mg/kg)	10x INEEL Background* (mg/kg)	Comment	Retain COPC?
CFA-21	Fuel Tank at Nevada Circle (S by CFA-629) 7.00E+00	TPH	<1 to 3	54,000	NA	No background	YES
CFA-26	CFA-760 Pump Station Fuel Spills 1.12E+02	TPH	≤1 to ≤4	3,470	NA	No background	YES
CFA-40	Returnable Drum Storage (south of CFA-601) 5.40E+02	TPH	<1 to 3	<625	NA	No background	YES
CFA-41	Excess Drum Storage (south of CFA-674) 6.97E+03	TPH	<1 to 20	<1,000	NA	No background	YES
CFA-43	Lead Storage Area 1.53E+04	Lead	≤1 to 300	180	170	>10x background	YES
CFA-51	Dry Well at north end of CFA-640 1.00E-01	Cadmium	<1 to 5	14.0	22	<10x background	No
		Copper	<1 to 3	250	220		YES

**Table 7-23.** (continued).

Site Number	Site Description and Size (sq. meters)	Contaminant of Potential Concern	Hazard Quotient	Maximum Concentration (mg/kg)	10x INEEL Background* (mg/kg)	Comment	Retain COPC?
		Zinc	<1 to 7	340	1500	<10x background	No
a. At CFA-17/47 organic compounds were calculated using maximum concentrations.							
b. Xylene was detected at 10 ft bgs.							
* Metal concentrations (mg/kg) typically found in INEEL soil is discussed in Rood et al. 1996.							

addressed in the WAG-level ERA by eliminating those that clearly pose a low likelihood for risk, (2) better defines the nature and extent of contamination at individual WAG sites, (3) indicates sites for which further data are needed, and (4) identifies other data gaps. The results of this assessment serve to support problem formulation and drive media and pathways to be evaluated for the WAG-level ERA. This pre-assessment methodology will be used to screen additional sites and/or contaminants identified during the ongoing CERCLA process. This level of the assessment does not support setting remedial action levels. Details of SLERA methodology can be found in VanHorn et al. (1995).

The second phase is the WAG ERA, which represents the baseline risk assessment of the No Action alternative for remediation. The WAG ERA incorporates the screening results to assess potential risks to ecological receptors at the WAG-level following EPA guidance (1992). The method parallels the human health risk assessment in that each site at the WAG is individually assessed. This section presents the WAG ERA for OU 4-13. Table 7-21 summarizes the ERA screening steps used at WAG 4 sites. The WAG ERA results will (1) provide a list of COPCs to be addressed in the OU 10-04 ERA, and, (2) identify OU 10-04 level data gaps that must be filled before performing the OU 10-04 ERA. The results of the WAG ERA may also support risk assessments to evaluate WAG remedial actions or additional assessments, if necessary.

The third phase of the ERA process is the OU 10-04 ERA, which is performed to evaluate risk to INEEL-wide ecological resources. The OU 10-04 ERA will integrate the results of the WAG ERAs for all INEEL WAGs to determine whether contamination at the WAGs contributes potential risk to populations and communities on an ecosystem-wide basis (i.e., over the entire INEEL).

## 7.7 References

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